REMARKS

Claims 1, 2, 12, 13 and 14 are pending in the present application.

Applicants gratefully acknowledge the Examiner's indication that claim 14 is directed to allowable subject matter.

Claims 1, 2 and 13 stand rejected under 35 USC 102(b) as being anticipated by Ramarge et al. (US Patent Publ. No. 2002/0100605). Claim 12 stands rejected under 35 USC 103(a) as being obvious over Ramarge et al. Applicants respectfully disagree with the Examiner's analysis of theses claims as set forth in detail below and respectfully request reconsideration of the rejected claims of the subject application in light of the remarks herein.

More specifically, the Examiner seems to be under the misconception that the combination of the insulating material of the shank and the coating material in Ramarge et al. may be considered as a "first insulating material", as required by claim 1. Similarly the Examiner is of the opinion that the second insulating material defined in claim 1 is equivalent to a combination of the shed insulating material and the coating material in Ramarge et al.

The prior art document to Ramarge et al. defines three distinct and separate materials, namely a first sheath insulating material, a second shed insulating material and

a third hydrophobic material (RTV silicon coating 220) that is applied to the first and second materials (see paragraphs 0007 and 0039-0045). While the hydrophobic material may arguably form protuberances and concavities, these are formed from the hydrophobic material which is applied to the outer surfaces of the first and second materials. In contrast, claim 1 of the present invention clearly states that the protuberances and concavities are formed in the first and second materials themselves.

In order for the invention to provide a defined variation of the outer surface per unit length along the longitudinal direction of the shank so as to improve the control of the leakage current density and voltage gradient throughout the housing as intended, it is essential that the protuberances are integral with and formed from the first and second materials. Merely applying a third material to the surface of these first and second materials, as in Ramarge et al., would not provide the same effect.

More specifically, Ramarge et al. discloses an insulator comprising a sheath having one or more sheds, both the sheath and sheds being coated with a hydrophobic coating (RTV silicon coating 220). See paragraphs 0007 and 0039-0045. In Figure 4 and 5 of the prior art document of Ramarge et al, it is shown that markings on the surface of the sheath, and one or more sheds, are caused by the non-continuous application of the hydrophobic coating to the outer edge of the first insulative material and second insulative material.

Therefore, the raised regions of the markings are formed by the coating material and not the first insulative material and/or second insulative material. It is clear that the raised regions of the markings are not formed in the first insulative material and second insulative material. The raised regions of the markings are instead formed from a third material applied externally to the first insulative material and second insulative material.

In contrast, claim 1 of the present invention is directed to a patterned texture on the surface of the insulating structure wherein the patterned texture is formed by protuberances and concavities formed within the insulating material itself, rather than by depositing an additional layer of material on the outer surface of the shaft and/or shed to form a patterned texture (as in the case of the prior art). Specifically, Ramarge et al. discloses first and second insulative materials, with a third (hydrophobic) material applied to the outer surface of the first and second insulative materials. There is no disclosure in the prior art document of at least a portion of said outer surface of an insulating shank being defined by "a patterned texture including an array of substructures selected from protuberances and concavities which are formed in" either the first or second insulating materials.

The arrangement of claim 1 provides a defined variation of the outer surface per unit length along the longitudinal direction of the shank. This advantageously provides improved control of the longitudinal distribution of leakage current density and voltage gradient throughout the housing. The protuberances and concavities must be formed

within the first and second insulating materials of the shank and shed in order for the housing to achieve the desired effect.

In Ramarge et al., the hydrophobic coating is applied for the purpose of causing the beading of the water on the surface so as to prevent or reduce the occurrence of paths for leakage currents or dry band arcs to form on the surface. For this reason it is essential that the hydrophobic coating is formed of a different material to the first and second insulating materials. Therefore, the hydrophobic material is applied on the surface of the first and second insulating materials, and hence would not achieve the effect of the claimed invention of improving control of the longitudinal distribution of leakage current density and voltage gradient throughout the housing.

Therefore, essential features of the claimed invention are not disclosed or suggested by Ramarge et al. For these reasons, the invention of claim 1 is clearly patentable over the cited prior art.

The dependent claims are patentable over the cited art for those reasons advanced above with respect to claim 1 from which they depend and for reciting additional features that are not taught or suggested by the cited prior art.

For example, claim 13 recites that "said array of substructures that define said first outer surface of said shank is arranged such that the surface area of said first outer surface is substantially constant per unit length along the longitudinal direction of said

shank." Nowhere does the cited prior art teach or suggest these features. In rejecting claim 13, the Examiner asserts that these features of claim 13 are shown in Figure 4 of Ramarge et al. Applicants respectfully request that the Examiner provide some rationale as to how Fig. 4 suggests these features and thus support this assertion. Without such rationale, the Examiner has failed to establish a prima facie case of obviousness of claim 13. Importantly, these features permit the control of the longitudinal distribution of leakage current density and voltage gradient and thus offer significant advantages over the cited prior art.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,

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